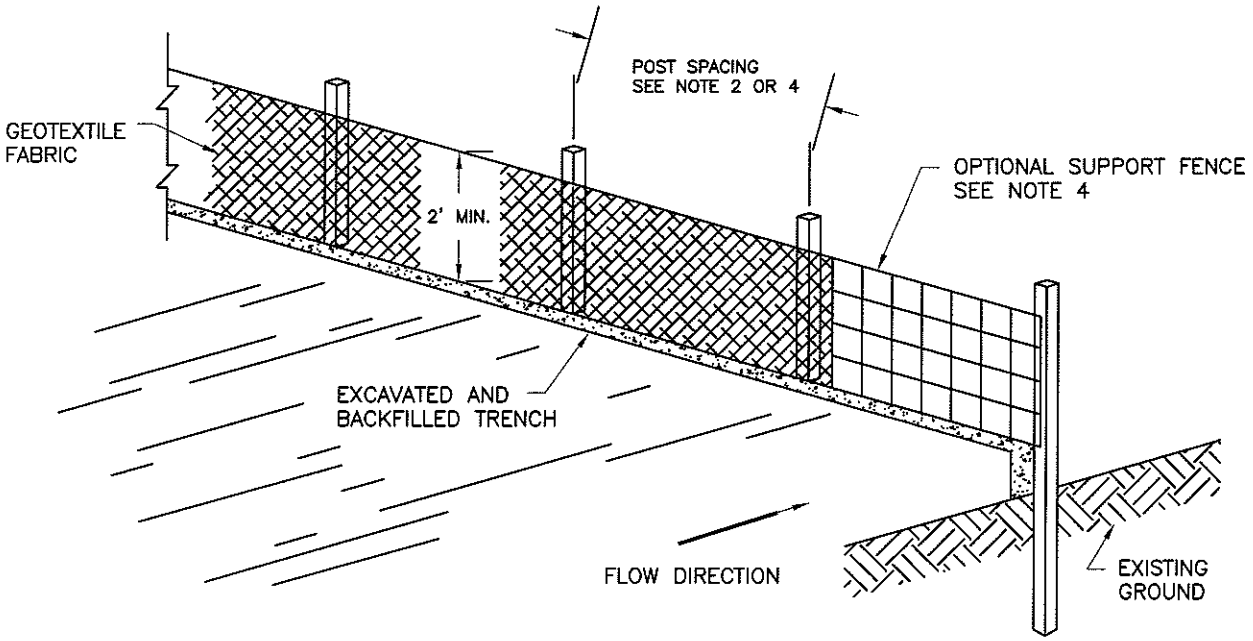
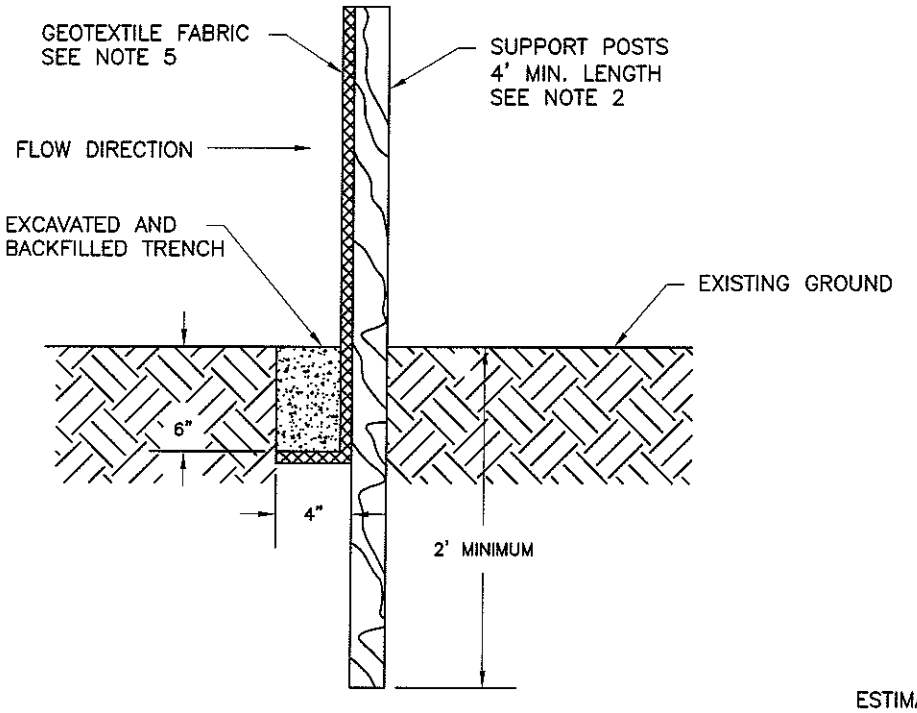


ISOMETRIC VIEW



TYPICAL SECTION

ESTIMATED LENGTH
OF SILT FENCE _____

SEE SHEET ____ OF ____
FOR LOCATION

NRCS
Natural Resources Conservation Service
United States Department of Agriculture

SILT FENCE

CLIENT: ----

COUNTY: ----

	Date
Designed ----	----
Drawn	
Checked	
Approved	

File Name Date
WI-707 6/07

NOTES:

1. THE GEOTEXTILE FABRIC SHALL BE PLACED IN THE EXCAVATED TRENCH, BACKFILLED, AND COMPACTED TO THE EXISTING GROUND SURFACE.
2. WOODEN SUPPORT POSTS SHALL BE A MINIMUM DIMENSION OF 2" X 2" (NOMINAL) SOFT WOOD OR 1–1/8" x 1–1/8" AIR OR KILN DRIED POSTS OF HICKORY OR OAK. STEEL POSTS SHALL BE STUDDED "TEE" OR "U" TYPE WITH A MINIMUM WEIGHT OF 1.3 POUNDS PER LINEAL FOOT. POST SPACING SHALL BE A MAXIMUM OF 8 FEET.
3. THE GEOTEXTILE FABRIC SHALL BE ATTACHED DIRECTLY TO THE UPSLOPE SIDE OF WOODEN POSTS WITH WIRE STAPLES IN AT LEAST 3 PLACES, OR WITH WOODEN LATH AND NAILS. ATTACHMENT TO STEEL POSTS WILL BE BY WIRE FASTENERS OR PLASTIC TIE STRAPS.
4. A WIRE SUPPORT FENCE MAY BE INSTALLED TO WHICH THE GEOTEXTILE FABRIC IS ATTACHED. THE WIRE SHALL BE A MINIMUM OF 14–1/2 GAGE WOVEN WIRE WITH A MAXIMUM MESH SPACING OF 6 INCHES. POST SPACING SHALL BE A MAXIMUM OF 10 FEET. THE GEOTEXTILE FABRIC SHALL BE FOLDED 3 INCHES OVER THE WIRE FENCE AND SECURED WITH STAPLES OR WIRE RINGS SPACED AT 12 INCHES.
5. THE GEOTEXTILE FABRIC SHALL CONSIST OF EITHER WOVEN OR NON–WOVEN POLYESTER, POLYPROPYLENE, STABILIZED NYLON, POLYETHYLENE, OR POLYVINYLIDENE CHLORIDE. NON–WOVEN FABRIC MAY BE NEEDLE PUNCHED, HEAT BONDED, RESIN BONDED, OR COMBINATIONS THEREOF. ALL FABRIC SHALL MEET THE FOLLOWING REQUIREMENTS:

TEST REQUIREMENT	METHOD	VALUE *
MINIMUM GRAB TENSILE STRENGTH IN THE MACHINE DIRECTION	ASTM D 4632	120 LBS.
MINIMUM GRAB TENSILE STRENGTH IN THE CROSS MACHINE DIRECTION	ASTM D 4632	100 LBS.
MAXIMUM APPARENT OPENING SIZE EQUIVALENT STANDARD SIEVE	ASTM D 4751	NO. 30
MINIMUM PERMITTIVITY	ASTM D 4491	0.05 SEC^{-1}
MINIMUM ULTRAVIOLET STABILITY PERCENTAGE OF STRENGTH RETAINED AFTER 500 HOURS OF EXPOSURE	ASTM D 4355	70%

* ALL NUMERICAL VALUES REPRESENT MINIMUM/MAXIMUM AVERAGE ROLL VALUES. (FOR EXAMPLE, THE AVERAGE OF MINIMUM TEST RESULTS ON ANY ROLL IN A LOT SHOULD MEET OR EXCEED THE MINIMUM SPECIFIED VALUES.)

BILL OF MATERIALS

ITEM	QUANTITY
SUPPORT POSTS (4' MIN. LENGTH)	_____ OR _____ WITH SUPPORT FENCE
GEOTEXTILE	_____ FT.
WIRE SUPPORT FENCE	_____ FT.
FASTENERS	AS REQUIRED

NRCS
Natural Resources Conservation Service
United States Department of Agriculture

SILT FENCE

CLIENT: ----
COUNTY: ----

Designed ----- Date ----
Drawn
Checked
Approved

File Name Date
WI–707 6/07

SEEDING DATES

TIME PERIOD	DATES	TYPE OF SEEDING
Spring	Thaw through	Permanent
Summer	through	Temporary *
Fall/Winter	through snow cover	Dormant

MATERIALS

Mulch with ____tons per acre of straw or hay reasonably free from grain and weed seed. If other mulch materials are used, the rate of application shall meet the manufacturer's recommendations.

Fertilizer and lime are not recommended for native species.

* Seed a temporary cover crop of _____ at a rate of _____ pounds/acre.

A permanent seeding shall be completed during the next acceptable time period following a temporary seeding.

MINIMUM PURE LIVE SEED (PLS)[1] RATE PER ACRE AND TOTAL POUNDS OF SEED NEEDED

SEEDING MIX _____ LOCATION _____ ACRES _____

SPECIES	RATE	POUNDS	SPECIES	RATE	POUNDS

1. PLS = (% Germination X % Purity)

SEEDBED PREPARATION

During the recommended seeding periods, seedbed preparation shall immediately follow construction activities. Prepare a fine, firm seedbed to a minimum depth of 3 inches.

SEEDING

Inoculate legumes with the specific inoculum for the species in accordance with the manufacturer's recommendations. Seed grasses and legumes no more than 1/4 inch deep. Seed may be broadcast or drilled directly into the temporary cover residue or prepared seedbed, as appropriate to the site. A hydroseeder is not recommended with native species. If seed is to be broadcast, native seed shall be mixed with moist sand or sawdust on site. A ratio of 1 part moist sand or moist sawdust to 1 part seed mix by volume shall be used. Cultipack or roll before and after seeding if broadcast.

MULCHING

Spread mulch uniformly. Straw mulch materials shall be stabilized by the use of a disk, by a suitable non-asphaltic tackifier, or by netting. A disk harrow shall have the disks set straight and the harrow shall be used to anchor the straw mulch into the soil. The tackifier shall be applied uniformly over the mulch material at the specified rate, or by injecting it into the mulch material as it is being applied. The netting shall be stapled per the manufacturer's reccomendations.

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NATIVE SPECIES
SEEDING ESTABLISHMENT

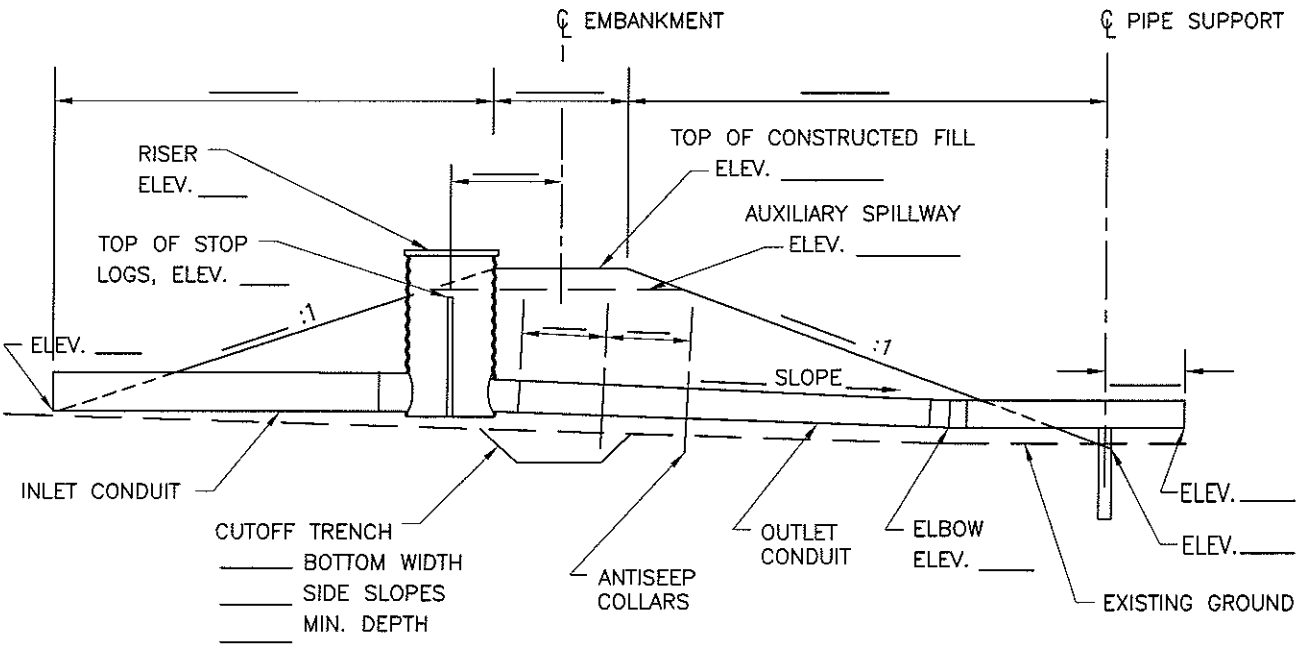
CLIENT: _____
COUNTY: _____

	Date
Designed	
Drawn	
Checked	
Approved	

File Name	Date
WI-711	6/07

Sheet of

PROFILE ALONG CENTERLINE OF PRINCIPAL SPILLWAY



ESTIMATE OF MATERIALS		
ITEM	QUANTITY	DWG. NO.
INLET CONDUIT _____ IN. DIAM. CMP, METAL THICKNESS _____ (_____ GA.) WITH WATERTIGHT CONNECTIONS (WI CONST. SPEC. 6)	_____ LIN. FT.	_____
OUTLET CONDUIT _____ IN. DIAM. CMP, METAL THICKNESS _____ (_____ GA.) WITH WATERTIGHT CONNECTIONS (WI CONST. SPEC. 6)	_____ LIN. FT.	_____
ELBOW TO MATCH OUTLET CONDUIT SIZE (WI CONST. SPEC. 6)	_____ LIN. FT.	_____
RISER _____ IN. DIAM. CMP, METAL THICKNESS _____ (_____ GA.) INCLUDING TWO 4' LONG STUBS TO MATCH CONDUIT SIZES (WI CONST. SPEC. 6)	_____ LIN. FT.	_____
STOP LOGS _____ THICKNESS (NOMINAL)	_____ LIN. FT.	_____
ANTISEEP COLLARS (WI CONST. SPEC. 6)	_____ NO.	_____
PIPE SUPPORT	_____ EACH	_____

NOTES:

1. THE MOST PERVIOUS FILL IS TO BE PLACED IN THE DOWNSTREAM 1/3 OF THE DAM.
2. CORRUGATED METAL PIPE SHALL HAVE WATERTIGHT CONNECTIONS.

THIS STANDARDIZED DESIGN MUST BE ADAPTED TO THE SPECIFIC SITE.

NRCS
Natural Resources Conservation Service
United States Department of Agriculture

WATER LEVEL CONTROL STRUCTURE WITH ROUND RISER

CLIENT: _____

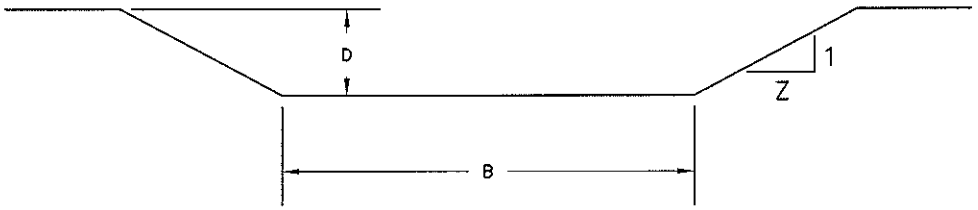
COUNTY: _____

	Date
Designed	
Drawn	
Checked	
Approved	

File Name: WI-103

Date: 6/07

Sheet of



TRAPEZOIDAL CROSS SECTION

CONSTRUCTION DETAILS

WATERWAY NUMBER	REACH		CHANNEL SLOPE(%)	BOTTOM WIDTH(B) FEET	DEPTH(D) FEET	SIDE SLOPE(Z)	LENGTH FEET
	FROM	TO					

NOTES AND SPECIFICATIONS:

1. TOPSOIL SHALL BE STOCKPILED AND RESPREAD ON THE WATERWAY WHEN NEEDED TO FACILITATE REVEGETATION.
2. PLACE SPOIL WHERE IT WILL NOT INTERFERE WITH SURFACE WATER FLOW INTO THE WATERWAY.
3. MAINTENANCE ITEMS – REPAIR AREAS OF DAMAGED VEGETATION. DO NOT USE THE WATERWAY FOR A TRAVEL LANE. DO NOT PLOW INTO THE WATERWAY SIDES.

SEE REVERSE SIDE FOR ADDITIONAL INFORMATION

NRCS
Natural Resources Conservation Service
United States Department of Agriculture

TRAPEZOIDAL GRASSED WATERWAY

CLIENT: _____

COUNTY: _____

Date

Designed _____

Drawn _____

Checked _____

Approved _____

File Name Date
WI-402 A 6/07

Sheet of

DESIGN DATA

WATERWAY SOILS[1] _____ MAXIMUM PERMISSIBLE VELOCITY = _____FPS

WATERWAY NUMBER	REACH		D.A. IN (ACRES)	DESIGN FREQ.	Q (CFS)	RET 2 (VEL)	RET 2 (CAP)	DESIGN V (FPS)	CHANNEL SLOPE (%)	BOTTOM WIDTH (B)	SIDE SLOPES (Z)	FLOW DEPTH (FT.)
	FROM	TO										

1. UNIFIED SOIL CLASSIFICATION SYSTEM
2. RET (VEL) IS THE RETARDANCE FOR DETERMINING DESIGN VELOCITY (NORMALLY "D").
   RET (CAP) IS THE RETARDANCE FOR DETERMINING THE FLOW DEPTH FOR CAPACITY (NORMALLY "B" OR "C").

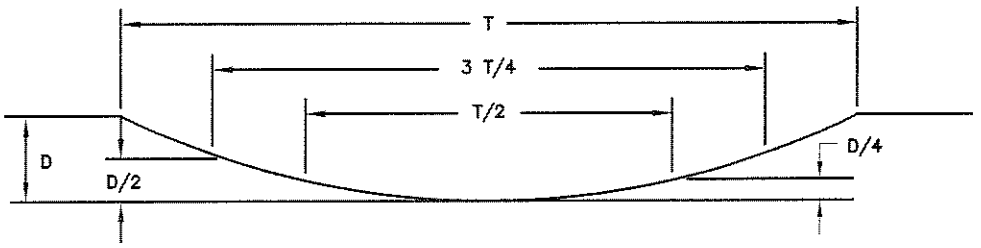
SEEDING AND CONSTRUCTION CHECK

DESIGN DATA					AS–BUILT DATA						
WATERWAY NUMBER	REACH		WIDTH TO VEGETATE (FT.)	AREA (ACRES) (SQ.YDS.)	SEEDING IN (ACRES)	SODDING IN (SQ.YDS.)	CHANNEL SLOPE (%)	BOTTOM WIDTH (FT.)	SIDE SLOPES (Z)	DEPTH (FT.)	LENGTH (FT.)
	FROM	TO									
			TOTALS							TOTAL	

THIS PRACTICE MEETS NRCS STANDARDS, SPECIFICATIONS, AND CONSTRUCTION PLANS.

_____ _____

SIGNATURE & TITLE DATE



PARABOLIC CROSS SECTION

CONSTRUCTION DETAILS

WATERWAY NUMBER	REACH		CHANNEL SLOPE(%)	TOP WIDTH(T) FEET	TOTAL DEPTH(D) FEET	LENGTH FEET
	FROM	TO				

NOTES AND SPECIFICATIONS:

1. TOPSOIL SHALL BE STOCKPILED AND RESPREAD ON THE WATERWAY WHEN NEEDED TO FACILITATE REVEGETATION.
2. PLACE SPOIL WHERE IT WILL NOT INTERFERE WITH SURFACE WATER FLOW INTO THE WATERWAY.
3. MAINTENANCE ITEMS – REPAIR AREAS OF DAMAGED VEGETATION. DO NOT USE THE WATERWAY FOR A TRAVEL LANE. DO NOT PLOW INTO THE WATERWAY SIDES.

THIS STANDARDIZED DESIGN MUST BE ADAPTED TO THE SPECIFIC SITE.

NRCS
Natural Resources Conservation Service
United States Department of Agriculture

PARABOLIC GRASSED WATERWAY

CLIENT: _____

COUNTY: _____

Date

Designed _____

Drawn _____

Checked _____

Approved _____

Drawing Name
WI-402 B

Date
6/07

Sheet of

DESIGN DATA

WI–402 B

WATERWAY SOILS [1] _____ MAXIMUM PERMISSIBLE VELOCITY = ___ FPS

WATERWAY NUMBER	REACH		D.A. IN (ACRES)	DESIGN FREQ.	Q (CFS)	RET [2] (VEL)	RET [2] (CAP)	DESIGN V (FPS)	CHANNEL SLOPE (%)	TOP WIDTH (T)	FLOW DEPTH (FT.)
	FROM	TO									

1. UNIFIED SOIL CLASSIFICATION SYSTEM

2. RET (VEL) IS THE RETARDANCE FOR DETERMINING DESIGN VELOCITY (NORMALLY "D").
   RET (CAP) IS THE RETARDANCE FOR DETERMINING THE FLOW DEPTH FOR CAPACITY (NORMALLY "B" OR "C").

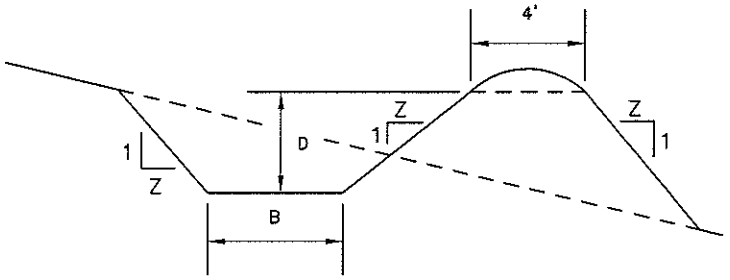
SEEDING AND CONSTRUCTION CHECK

DESIGN DATA				AS–BUILT DATA					
WATERWAY NUMBER	REACH		WIDTH TO VEGETATE (FT.)	AREA (ACRES) (SQ.YDS.)	SEEDING IN (ACRES)	SODDING IN (SQ.YDS.)	CHANNEL SLOPE (%)	TOP WIDTH (FT.)	DEPTH (FT.)	LENGTH (FT.)
	FROM	TO								
			TOTALS						TOTAL	

THIS PRACTICE MEETS SCS STANDARDS, SPECIFICATIONS, AND CONSTRUCTION PLANS.

_____ SIGNATURE & TITLE

_____ DATE



B=BOTTOM WIDTH
D=TOTAL DEPTH
Z=SIDE SLOPE

TRAPEZOIDAL CROSS SECTION

CONSTRUCTION DETAILS

DIVERSION NUMBER	REACH		CHANNEL SLOPE(%)	BOTTOM WIDTH(B) FEET	TOTAL DEPTH(D) FEET	SIDE SLOPE(Z)	LENGTH FEET
	FROM	TO					

NOTES AND SPECIFICATIONS:

1. TOPSOIL SHALL BE STOCKPILED AND RESPREAD ON THE DIVERSION WHEN NEEDED TO FACILITATE REVEGETATION.
2. RIDGE COMPACTION AND ANY PIPE BACKFILL COMPACTION THROUGH THE RIDGE SHALL BE IN ACCORDANCE WITH WI CONSTRUCTION SPECIFICATION 3.
3. MAINTENANCE ITEMS – REPAIR AREAS OF DAMAGED VEGETATION. MAINTAIN THE DIVERSION CHANNEL CAPACITY AND RIDGE HEIGHT.

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United States Department of Agriculture

TRAPEZOIDAL DIVERSION

CLIENT: _____

COUNTY: _____

Date

Designed _____

Drawn _____

Checked _____

Approved _____

File Name Date
WI-403A 6/07

Sheet of

DESIGN DATA

DIVERSION SOILS[1] _____ MAXIMUM PERMISSIBLE VELOCITY = _____FPS

DIVERSION NUMBER	REACH		D.A. IN ACRES	DESIGN FREQ.	Q (CFS)	RET[2] (VEL)	RET[2] (CAP)	DESIGN V (FPS)	CHANNEL SLOPE (%)	BOTTOM WIDTH(B) FEET	SIDE SLOPES (Z)	FLOW DEPTH (FT.)	FREE-BOARD (FT.)	SETTLE-MENT[3] (FT.)	TOTAL DEPTH (D) (FT.)
	FROM	TO													

1. UNIFIED SOIL CLASSIFICATION SYSTEM
2. RET (VEL) IS THE RETARDANCE FOR DETERMINING DESIGN VELOCITY (NORMALLY "D").
   RET (CAP) IS THE RETARDANCE FOR DETERMINING THE FLOW DEPTH FOR CAPACITY (NORMALLY "B" OR "C").
3. SETTLEMENT SHALL BE A MINIMUM OF TEN (10) PERCENT OF THE FILL HEIGHT.

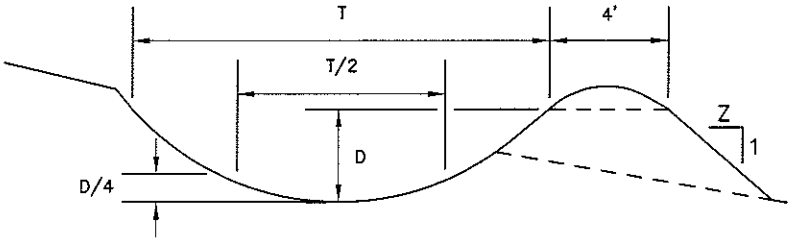
SEEDING AND CONSTRUCTION CHECK

DESIGN DATA					AS-BUILT DATA						
DIVERSION NUMBER	REACH		WIDTH TO VEGETATE (FT.)	AREA (ACRES) (SQ.YDS.)	SEEDING IN (ACRES)	SODDING IN (SQ.YDS.)	CHANNEL SLOPE (%)	BOTTOM WIDTH(B) FEET	SIDE SLOPES (Z)	TOTAL DEPTH(D) (FT.)	LENGTH (FT.)
	FROM	TO									
				TOTALS						TOTAL	

THIS PRACTICE MEETS NRCS STANDARDS, SPECIFICATIONS, AND CONSTRUCTION PLANS.

_____ _____

SIGNATURE & TITLE DATE



T=TOP WIDTH AT TOTAL DEPTH
D=TOTAL DEPTH
Z= SIDE SLOPE

PARABOLIC CROSS SECTION

CONSTRUCTION DETAILS

DIVERSION NUMBER	REACH		CHANNEL SLOPE(%)	TOP WIDTH(T) FEET	TOTAL DEPTH(D) FEET	SIDE SLOPE(Z)	LENGTH FEET
	FROM	TO					

NOTES AND SPECIFICATIONS:

1. TOPSOIL SHALL BE STOCKPILED AND RESPREAD ON THE DIVERSION WHEN NEEDED TO FACILITATE REVEGETATION.
2. RIDGE COMPACTION AND ANY PIPE BACKFILL COMPACTION THROUGH THE RIDGE SHALL BE IN ACCORDANCE WITH WI CONSTRUCTION SPECIFICATION 3.
3. MAINTENANCE ITEMS – REPAIR AREAS OF DAMAGED VEGETATION. MAINTAIN THE DIVERSION CHANNEL CAPACITY AND RIDGE HEIGHT.

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United States Department of Agriculture

PARABOLIC DIVERSION

CLIENT: _____

COUNTY: _____

Date

Designed _____

Drawn _____

Checked _____

Approved _____

File Name Date
WI-403B 6/07

Sheet of

DESIGN DATA

DIVERSION SOILS[1] _____ MAXIMUM PERMISSIBLE VELOCITY = _____FPS

DIVERSION NUMBER	REACH		D.A. IN ACRES	DESIGN FREQ.	Q (CFS)	RET[2] (VEL)	RET[2] (CAP)	DESIGN V (FPS)	CHANNEL SLOPE (%)	TOP WIDTH(T) FEET	SIDE SLOPES (Z)	FLOW DEPTH (FT.)	FREE-BOARD (FT.)	SETTLE-MENT[3] (FT.)	TOTAL DEPTH (D)(FT.)
	FROM	TO													

1. UNIFIED SOIL CLASSIFICATION SYSTEM
2. RET (VEL) IS THE RETARDANCE FOR DETERMINING DESIGN VELOCITY (NORMALLY "D").
   RET (CAP) IS THE RETARDANCE FOR DETERMINING THE FLOW DEPTH FOR CAPACITY (NORMALLY "B" OR "C").
3. SETTLEMENT SHALL BE A MINIMUM OF TEN (10) PERCENT OF THE FILL HEIGHT.

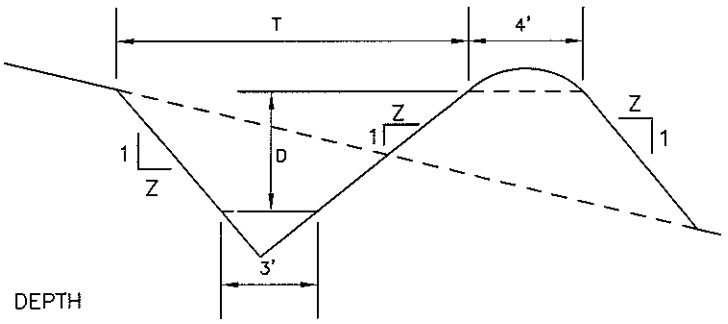
SEEDING AND CONSTRUCTION CHECK

DESIGN DATA					AS-BUILT DATA						
DIVERSION NUMBER	REACH		WIDTH TO VEGETATE (FT.)	AREA (ACRES) (SQ.YDS.)	SEEDING IN (ACRES)	SODDING IN (SQ.YDS.)	CHANNEL SLOPE (%)	TOP WIDTH(T) FEET	SIDE SLOPES (Z)	TOTAL DEPTH(D) (FT.)	LENGTH (FT.)
	FROM	TO									
				TOTALS						TOTAL	

THIS PRACTICE MEETS NRCS STANDARDS,
SPECIFICATIONS, AND CONSTRUCTION PLANS.

_____ _____

SIGNATURE & TITLE DATE



T=TOP WIDTH AT TOTAL DEPTH
D=TOTAL DEPTH
Z=SIDE SLOPE

V–SHAPED CROSS SECTION

CONSTRUCTION DETAILS

DIVERSION NUMBER	REACH		CHANNEL SLOPE(%)	TOP WIDTH(T) FEET	TOTAL DEPTH(D) FEET	SIDE SLOPE(Z)	LENGTH FEET
	FROM	TO					

NOTES AND SPECIFICATIONS:

1. TOPSOIL SHALL BE STOCKPILED AND RESPREAD ON THE DIVERSION WHEN NEEDED TO FACILITATE REVEGETATION.
2. RIDGE COMPACTION AND ANY PIPE BACKFILL COMPACTION THROUGH THE RIDGE SHALL BE IN ACCORDANCE WITH WI CONSTRUCTION SPECIFICATION.
3. MAINTENANCE ITEMS – REPAIR AREAS OF DAMAGED VEGETATION. MAINTAIN THE DIVERSION CHANNEL CAPACITY AND RIDGE HEIGHT.

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Natural Resources Conservation Service
United States Department of Agriculture

V–SHAPED DIVERSION

CLIENT: _____

COUNTY: _____

Date

Designed _____

Drawn _____

Checked _____

Approved _____

File Name Date
WI–403C 6/07

Sheet of

DESIGN DATA

DIVERSION SOILS[1] _____ MAXIMUM PERMISSIBLE VELOCITY = _____ FPS

DIVERSION NUMBER	REACH		D.A. IN ACRES	DESIGN FREQ.	Q (CFS)	RET[2] (VEL.)	RET[2] (CAP)	DESIGN V (FPS)	CHANNEL SLOPE (%)	TOP WIDTH(T) FEET	SIDE SLOPES (Z)	FLOW DEPTH (FT.)	FREE-BOARD (FT.)	SETTLE-MENT[3] (FT.)	TOTAL DEPTH (D) (FT.)
	FROM	TO													

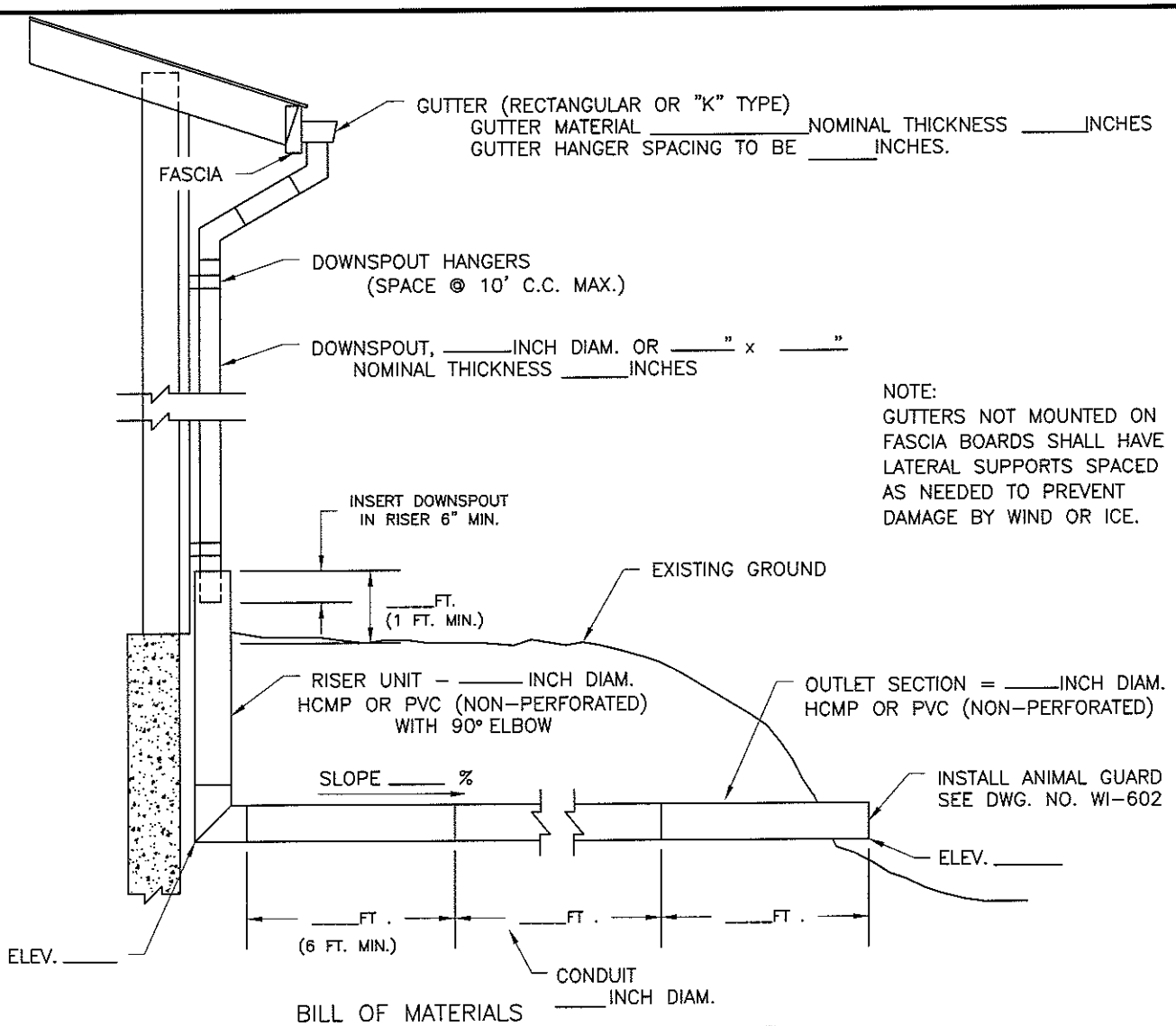
1. UNIFIED SOIL CLASSIFICATION SYSTEM
2. RET (VEL) IS THE RETARDANCE FOR DETERMINING DESIGN VELOCITY (NORMALLY "D").
   RET (CAP) IS THE RETARDANCE FOR DETERMINING THE FLOW DEPTH FOR CAPACITY (NORMALLY "B" OR "C").
3. SETTLEMENT SHALL BE A MINIMUM OF TEN (10) PERCENT OF THE FILL HEIGHT.

SEEDING AND CONSTRUCTION CHECK

DESIGN DATA					AS-BUILT DATA						
DIVERSION NUMBER	REACH		WIDTH TO VEGETATE (FT.)	AREA (ACRES) (SQ.YDS.)	SEEDING IN (ACRES)	SODDING IN (SQ.YDS.)	CHANNEL SLOPE (%)	TOP WIDTH(T) FEET	SIDE SLOPES (Z)	TOTAL DEPTH(D) (FT.)	LENGTH (FT.)
	FROM	TO									
				TOTALS						TOTAL	

THIS PRACTICE MEETS NRCS STANDARDS, SPECIFICATIONS, AND CONSTRUCTION PLANS.

_____ SIGNATURE & TITLE _____ DATE



BILL OF MATERIALS

ITEM	QUANTITY
GUTTER WITH HANGERS_____ INCH K STYLE OR _____" x _____"	_____ LIN. FT.
DOWNSPOUT_____ INCH DIAMETER OR _____" x _____"	_____ LIN. FT.
DOWNSPOUT ELBOWS	AS NEEDED
RISER UNIT_____ INCH DIAMETER (HCMP OR PVC WITH 90° ELBOW) SPEC._____	_____ LIN. FT.
CONDUIT_____ INCH DIAMETER, ASTM F 404 OR NRCS STANDARD 606	_____ LIN. FT.
OUTLET_____ INCH DIAMETER (HCMP OR PVC) SPEC._____	_____ LIN. FT.
ANIMAL GUARD	_____ EACH
_____" x _____" FASCIA BOARD AND ALL MATERIALS TO INSTALL	_____ LIN. FT.

NOTES:

1. POSITION THE GUTTER, SO THAT THE OUTER EDGE OF THE GUTTER IS BELOW THE ROOF LINE PROJECTION.
2. SEE GUTTER PROFILE, SHEET _____ OR INSTALLATION DATA CHART FOR GUTTER GRADE.
3. SEE SHEET _____ FOR DOWNSPOUT LOCATION(S).

THIS STANDARDIZED DESIGN MUST BE ADAPTED TO THE SPECIFIC SITE.

NRCS
Natural Resources Conservation Service
United States Department of Agriculture

RAIN GUTTERS AND DOWNSPOUTS WITH UNDERGROUND OUTLETS

CLIENT: _____

COUNTY: _____

	Date
Designed	
Drawn	
Checked	
Approved	

File Name Date
WI-408A 6/07

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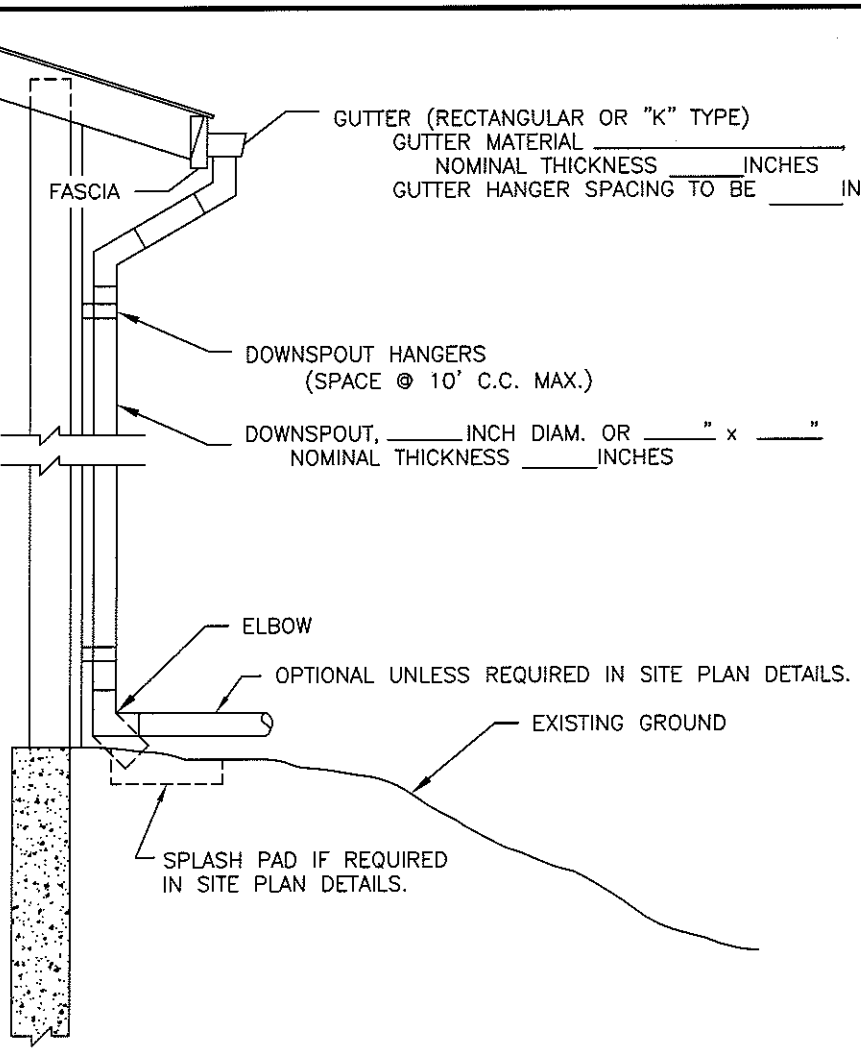


NOTE:
GUTTERS NOT MOUNTED ON FASCIA BOARDS SHALL HAVE LATERAL SUPPORTS SPACED AS NEEDED TO PREVENT DAMAGE BY WIND OR ICE.

BILL OF MATERIALS

ITEM	QUANTITY
GUTTER WITH HANGERS _____ INCH K STYLE OR _____" x _____"	_____ LIN. FT.
DOWNSPOUT _____ INCH DIAMETER OR _____" x _____"	_____ LIN. FT.
DOWNSPOUT ELBOWS	AS NEEDED
_____" x _____" FASCIA BOARD AND ALL MATERIAL TO INSTALL	_____ LIN. FT.

NOTE:
1. POSITION THE GUTTER SO THAT THE OUTER EDGE OF THE GUTTER IS BELOW THE ROOF LINE PROJECTION.
2. SEE GUTTER PROFILE, SHEET _____ OR INSTALLATION DATA CHART FOR GUTTER GRADE.
3. SEE SHEET _____ FOR DOWNSPOUT LOCATION(S).

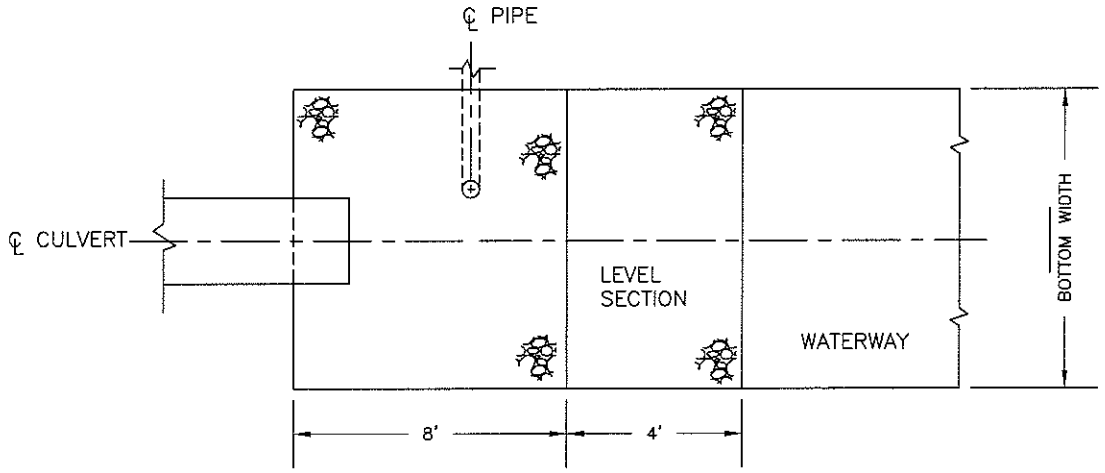
THIS STANDARDIZED DESIGN MUST BE ADAPTED TO THE SPECIFIC SITE.

NRCS
Natural Resources Conservation Service
United States Department of Agriculture

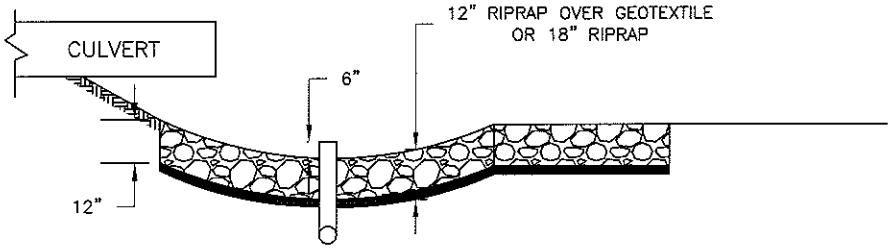
RAIN GUTTERS AND DOWNSPOUTS WITH SURFACE OUTLETS

CLIENT: _____
COUNTY: _____

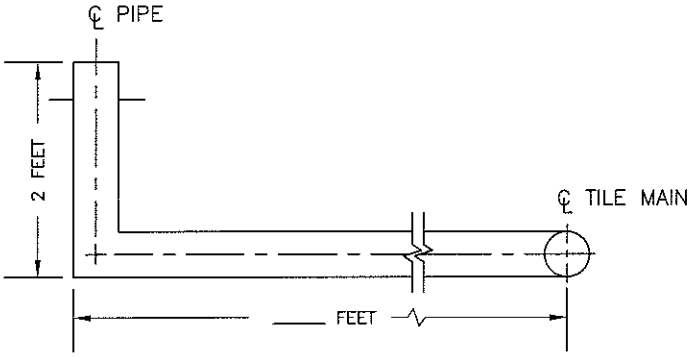
	Date	File Name	Date
Designed		WI-408B	6/07
Drawn			
Checked			
Approved		Sheet	of



PLAN VIEW



SECTION ALONG CENTERLINE



PIPE DETAILS

QUANTITIES	
EXCAVATION	____ CU. YD.
ROCK RIPRAP	____ CU. YD.
GEOTEXTILE NONWOVEN CLASS ____	____ SQ. YDS.
6-INCH DIA. PIPE	____ LIN. FT.
____	____

SEE REVERSE SIDE FOR ADDITIONAL INFORMATION

NOTES:

1. IF THE SURFACE INLET IS NOT BELOW A CULVERT, A 4 FOOT LEVEL SECTION SHALL BE CONSTRUCTED AT THE UPSTREAM SIDE, SIMILAR TO THE LEVEL SECTION SHOWN.
2. USE AN ORIFICE PLATE TO MANTAIN OPEN CHANNEL FLOW IN THE DOWNSTREAM PIPE.
3. IF AN ORIFICE IS NOT INSTALLED, PERFORATED PIPE MAY BE USED THROUGH THE RIPRAP SECTION AND SHALL BE WRAPPED WITH GEOTEXTILE.
4. THE OUTLET PIPE SHALL BE CONNECTED TO A TILE MAIN INSTALLED ALONG THE WATERWAY.
5. THE RIPRAP SHALL BE WELL GRADED FIELD OR QUARRY-RUN STONE WITH A MAXIMUM SIZE OF 12" AND A MINIMUM SIZE OF 2".
6. ORIFICE DIAMETER_____INCHES

NRCS
Natural Resources Conservation Service
United States Department of Agriculture

6-INCH DIA. SURFACE INLET FOR WATERWAYS

CLIENT: _____

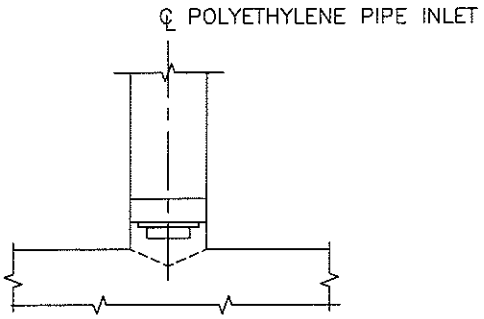
COUNTY: _____

	Date
Designed	
Drawn	
Checked	
Approved	

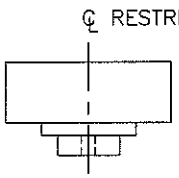
Drawing No. WI-410

Date 6/07

Sheet of

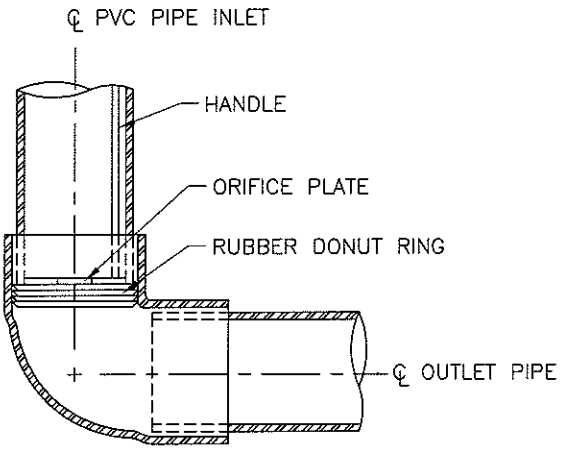


ORIFICE (RESTRICTOR) PLACEMENT DETAIL



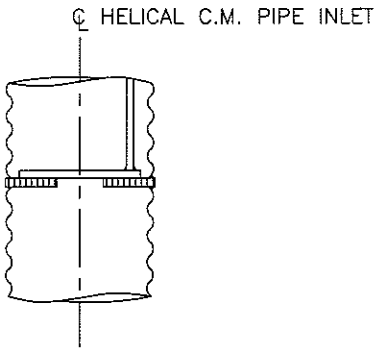
RESTRICTOR DETAIL

REFER TO DRAWING NO. WI-409

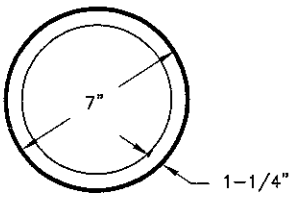


RUBBER DONUT RING ORIFICE SUPPORT

REFER TO DRAWING NO. WI-400



LIP RING AND ORIFICE PLATE DETAIL



LIP RING DETAIL

REFER TO DRAWING NO. WI-401

WI-410